Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

the stipules long-acuminate, scarious and brown, the sepals narrower and the style not thickened and glandular at the base. It is not rare in northern and alpine Europe and Asia, but I have seen only the following specimens from America.

Great Slave Lake: Miss E. Taylor, 1892. *Hudson Bay*: R. Bell, 1880.

POTENTILLA PULCHELLA R. Br. Ross' Voy. Ed. 2, 2: 193.

P. pulchella is generally a very small plant, tufted with many spreading items from the perennial root. The stems are generally less than 1 dm. long, but in one specimen seen fully 3 dm. The leaves have only two pairs of leaflets, and the terminal leaflet is generally sessile. It is generally quite hairy with long and yellowish white hairs. In general habit and flowers it comes near *P. Vahliana*, which has been mistaken for it; but the latter has always only 3 leaflets. Spitzbergen, Greenland, arctic coast of America, and Wrangle Island, off the coast of eastern Siberia.

POTENTILLA SOMMERFELTII Lehm. Del. Ind. Sem. Hamb. 1849: 6. 1849.

Closely resembles *P. pulchella*, but is still smaller and differs in the smaller flowers, the lack of the long hairs, and the stalked terminal leaflet. It is a native of Spitzbergen and Greenland, but one specimen at least has been collected on the American Continent. It was sent to Dr. Torrey from Dr. Hooker, but the collector's name does not appear on the label.

A neglected Species of Oxalis and its Relatives.

By JOHN K. SMALL.

The problem of drawing satisfactory lines between several species of *Oxalis* belonging to the group of which *O. corniculata* may be taken as the type, has apparently never been solved. Several forms of *Oxalis* exist in eastern North America, whose dispositions in our systematic works many botanists have not been able to understand satisfactorily. The plants referred to in this particular case are close relatives of *Oxalis corniculata* L., and have usually been regarded by authors as forms or varieties of that species, but as often happens, the " forms " or " varieties " possess excellent specific characters which for one reason or another have been overlooked.

A study of the material in the herbaria of Mr. Eugene P. Bicknell and Columbia University, together with field observations during several seasons, have led me to the following conclusions;

There are two perfectly distinct species, native in eastern North America, which have been indiscriminately referred to the names *Oxalis corniculata* or *O. stricta*. *Oxalis corniculata* is thought to be a native of southern Europe or tropical America and appears to be circumtropical. It is introduced to some extent into temperate regions, and we know it as a common weed in some of our southern cities; normally it is a prostrate and creeping plant, commonly wiry and very characteristic in habit, quite distinct from its two native eastern North American relatives with which we are at present concerned.

Linnaeus defines* *O. corniculata* and *O. stricta*, giving as characters for the former; " caule ramoso diffuso, pedunculis umbelliferis, Hort. Cliff. 175 " and Trifolium luteum minus repens etjam procumbens, Moris. hist. 2, p. 183, f. 2. t. 17. f. 2." For *O. stricta* he gives, " caule ramoso erecto, pedunculis umbelliferis, Gron. Virg. 161," and " Trifolium . . . corniculatum luteum majus rectum . . . , Moris. hist. 2, p. 184, f. 2. t. 17. f. 3." We notice that Linnaeus describes the habit of the two species as dissimilar, while the character of the inflorescence is recorded as the same in both, namely, " pedunculis umbelliferis."

What strikes one most forcibly in the case of our two eastern species is the great difference in the general habit of the plants and their more minute morphology; the lower stout and pale plant with umbel-like inflorescence, large columnar abruptly pointed pods and strigose pedicels is closely related to *Oxalis corniculata* although abundantly distinct. Its characters pointed to the Linnaean *O. stricta*, but to make sure, specimens of both the eastern American forms were sent to Mr. Edmund Baker, who kindly compared them with the originals in the herbarium of the British Museum of Natural History and reported that the plant with umbel-like inflorescence matched the original of *Oxalis stricta.*

---

* Sp. Pl. 435.

This disposes of one species, but there now remains the plant which has posed as *Oxalis corniculata,* as a state of *O. corniculata,* as a variety of *O. corniculata* and as *O. stricta;* it is tall and slender in habit and of a bright green color, with cymose inflorescence, smaller and more gradually narrowed capsules and villous pedicels. I cannot find an available published name for this species, and the only indication that it was noticed many years ago is the figure 4, on plate CCXXI, of Dillenius' Hortus Elthamensis, the rest of the plate clearly being *Oxalis stricta.* This species may be designated *Oxalis cymosa.* I append a description of our two common species:

OXALIS STRICTA L. Sp. Pl. 435. 1753.

Annual, caulescent, normally low, stout, fleshy, pale-green, glabrous below, or more or less strigose. Stem simple and erect or usually branched at the base, the branches spreading, decumbent or ascending, 1–4 dm. long, rather fleshy, usually green; leaves 1.5–3.5 cm. in diameter, on petioles 3–9 cm. long; stipules a narrow scarious dilatation of the base of the petiole; leaflets broader than long, thick and fleshy, acutely notched at the apex, the cellular structure very prominent under a lens; inflorescence axillary, umbellate; peduncles rather stout, 4–15 cm. long; petioles 1–2.5 cm. long, strigilose, at length deflexed, subtended by linear-subulate bracts; flowers yellow, fragrant; sepals linear or lanceolate, about 5 mm. long, many-nerved, ciliolate, erect or ascending; petals somewhat spatulate, about 1 cm. long, many-nerved, more or less inequilateral, undulate, commonly reddish at the base, sometimes slightly emarginate at the apex; capsule columnar, 1.5–3 cm. long, abruptly narrowed at the apex; seeds obovoid or elliptic, about 1 mm. long, brown, angled, marked with interrupted transverse ridges, the base rather acute.

New England to Dakota and Colorado, south to the Gulf of Mexico.

OXALIS CYMOSA n. sp.

Annual, caulescent, normally tall, slender, rather wiry, bright-green, glabrous or somewhat villous. Stem simple at the base, more or less branched above, 1–7 dm. tall, erect or assurgent, rarely decumbent at the base, at length woody, somewhat grooved, reddish or brownish; leaves 1–5 cm. to usually 3 or 4 cm. in diameter, on slender petioles 3–7 cm. long; stipules almost wanting;

leaflets broader than long, acutely notched at the apex, usually thinnish, the cellular structure not prominent under a lens; inflorescence axillary, cymose; peduncles wiry or filiform, 5–10 cm. long; pedicels 5–8 mm. long, villous, erect or ascending, subtended by linear-lanceolate bracts; flowers yellow; sepals lanceolate or narrowly elliptic, 4–5 mm. long, obtuse or acutish, erect or at length spreading; petals obovate or somewhat spatulate, 7–9 mm. long, many-nerved, obtuse or emarginate at the apex; capsule columnar, 1–1.5 cm. long, gradually narrowed to the apex; seeds obovoid-oblong, 1.2 mm. long, marked with prominent continuous ridges.

Ontario to the Lake Superior region and Nebraska, south to the Gulf of Mexico. Flowers somewhat earlier than *O. stricta.*

There is another relative of *Oxalis corniculata* occurring in our campestrian territory that appears to need study. I have examined the plant in the field and in the herbarium during several years and am convinced that it is specifically distinct from all other forms.

Rafinesque apparently found this form many years ago and described it in his New Flora,* and Prof. Trelease has described† it as a probable variety of *Oxalis corniculata.* The following is a description of the species as I now know it.

OXALIS MACRANTHA (Trel.).

?*Oxalis caespitosa* Raf. New. Fl. 2: 27. 1836. Not A. St. Hill.

Oxalis corniculata var.? *macrantha* Trel. Mem. Bost. Soc. Nat. Hist. 4: 88. 1888.

Usually perennial by horizontal rootstocks, stoutish or hirsute. Stems erect or assurgent, sometimes loosely tufted, 1–3 dm. tall, often becoming woody at the base, commonly leafy throughout, sometimes densely hirsute; leaves 1 cm. or usually 2–3 cm. broad, more or less silky-pilose; petioles filiform, 3–9 cm. long, pubescent like the stem; leaflets ciliate, sharply notched at the apex; peduncles filiform, exceeding the petioles; flowers bright yellow or golden, 2–2.5 cm. broad, 2–5 umbel-like at the ends of the peduncles; pedicels 1–2 cm. long, about as long as the flowers, subtended by linear-subulate bracts; sepals ovate or oblong, 6 mm. long, obtuse, minutely pubescent, 6–12 nerved, nearly erect, the tips sometimes spreading, petals nearly 1.5 cm. long, slightly notched at the apex; ovary glabrous or nearly so; styles villous;

---

* New Fl. 2:27. 1836,

† Mem. Bost. Soc. Nat. Hist. 4: 88. 1888.

capsule columnar, 12 mm. long, abruptly narrowed into and tipped by the long (4–5 mm.) styles; seeds obovoid, 3-angled, 1.5 mm. long, marked with low broken transverse ridges.

Missouri to Georgia, Florida and Texas; ascends to only a few meters above sea-level.

Fossil Diatomaceae from Nebraska, and their Relation to modern Species.*

By C. J. ELMORE.

Until very recently, fossil diatoms were scarcely known in Nebraska. In November, 1895, Dr. Barbour, professor of geology in the University of Nebraska, received some remarkably pure diatomaceous earth from Wheeler county. A little later he received some equally pure material from Mullen; and since that time a second deposit consisting of diatomaceous limestone has been found at Mullen, and a deposit of pure diatomaceous earth at Thedford. Some diatomaceous earth, largely calcareous, had been collected in Greeley county in 1887 by Mr. Russell and left with Dr. Bessey, but none of the species of diatoms that it contained had been identified.

Very little is known of these deposits. Dr. Barbour has not yet visited them, and the information that can be obtained from the collectors, who, in some cases at least, are the owners of the land on which the deposits occur, is very limited. Possibly the pure diatom deposits are of a sufficient extent to be valuable for commercial purposes, but this is somewhat doubtful.

The pure diatom deposit at Mullen consists of three layers. The middle layer contains practically nothing but diatom valves, while the top and bottom layers are mixed with considerable foreign matter. In the top layer six species were found that were not found in the middle layer, three of which are known in Nebraska only as fossil. In the lower layer only three species were found which were not found in the middle layer, all of which are common among modern Nebraska diatoms. It seems a little strange that the species in the lower layer should resemble mod-

---

* Read before Nebraska Academy of Sciences, January 3, 1896.